

FIRST REPORT OF *PERSICARIA HISPIDA* (POLYGONACEAE)
FROM NORTH AMERICA NORTH OF MEXICO (TEXAS)

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ABSTRACT

Persicaria hispida is reported for North America north of Mexico for the first time. The species was discovered growing in stock-tanks on two ranches in Starr County, Texas. A duplicate of one of the collections (Carr *et al.* 20568) was sent to the William and Lynda Steere Herbarium at The New York Botanical Garden where it was identified as *Persicaria hispida* in 2009.

KEY WORDS: new record, Starr County, Texas, Tamaulipan Thornscrub Ecoregion

RESUMEN

Persicaria hispida se cita de América del Norte al norte de México por primera vez. La planta fue descubierta creciendo en un tanque de ganado en dos ranchos en el Condado de Starr, Texas. Un duplicado de una de las colecciones (Carr *et al.* 20568) fue enviado al Herbario William y Lynda Steere del Jardín Botánico de Nueva York, donde fue identificado como *Persicaria hispida* en 2009.

INTRODUCTION

The purpose of this paper is to report the discovery of a previously undocumented *Persicaria* (L.) Miller species for the flora of North America north of Mexico and to provide a description and exsiccate to facilitate monographic, floristic, ecological and conservation efforts.

This striking species was first encountered in Texas during a botanical inventory of a ranch in southern Starr County, an area rich in globally-rare species of the Tamaulipan Thornscrub Ecoregion (Fig. 1a). In April 2002, the junior author made a brief stop at a small, steep-sided stock tank and expected to tally the suite of low-growing species that characterize the flora of such sites during drought periods. These species include *Cynodon dactylon* (L.) Pers., *Phyla nodiflora* (L.) Greene, *Eryngium nasturtiifolium* Juss. ex Delarbre, *Glinus radiatus* Ruiz & Pavon) Rohrb., and *Calibrachoa parviflora* (Juss.) D'Arcy. The aforementioned species were present, but a taller plant caught our attention first and resulted in an excited conversation full of joyful expletives not usually associated with field work in South Texas. Although the species was immediately recognized as a member of the genus *Persicaria*, its robust, hispid stems, large ocreae and glutinous leaves excluded it from any *Persicaria* known from Texas. In December 2009, a second Texas population of *Persicaria hispida* was located during an inventory of a different Starr County ranch located about 6–7 air miles west-northwest of the first tank. The second tank had a clay bottom and was nearly full of water at the time. *Persicaria hispida* (H.B.K.) M. Gómez. occupied the deeper parts of the tank, occurring as a lone emergent species while other species, such as *Chloracantha spinosa* (Benth.) G. L. Nesom, *Eleocharis palustris* (L.) Roem. & Schult and *Cynodon dactylon* were visible along the shoreline. Both tanks were on ranches that were actively grazed by cattle and also supported small populations of white-tailed deer.

Persicaria hispida is a distinctive species that ranges from southern South America, north to northern Mexico and now documented in Texas. *Persicaria orientalis* (L.) Spach is the only other *Persicaria* in North America that is hispid throughout, has leaf blades ovate, more than 3 cm wide and ocreae margins (apices) broadly rotate and photosynthetic. The two species may be distinguished by the following key.

1. Terrestrial from taproot; whole plant hirsute or strigose, not stipitate-glandular; leaf blade bases truncate, rounded or cordate; inflorescences ascending or drooping; perianth eglandular; garden escape _____ **P. orientalis**
1. Aquatic or semi-aquatic from rhizomes; whole plant hispid and stipitate-glandular; leaf blade bases cuneate; inflorescences stiffly erect; perianth glandular; native _____ **P. hispida**

Persicaria hispida (H.B.K.) M. Gómez, *Anales Inst. Seg. Enseñanza La Habana* 2:278. 1896. *Polygonum hispidum* H.B.K., *Nov. Gen. Sp. Pl.* 2: 178. 1817, non *Polygonum hispidum* Buch.-Ham. ex D. Don, *Prodr. Fl. Nepal.* 71. 1825. TYPE: COLOMBIA. "prope urbem Carthago in devexis Andium Quinduensium, alt. 530 hex. Floret Martio," *Humboldt & Bonpland s.n.* (HOLOTYPE: B n.v. [photo NY]).

Perennial herb, aquatic or sub-terrestrial, 0.5–1.5 m tall, hispid, punctate and stipitate-glandular; rhizomes procumbent, 1–3.5 cm diameter at the nodes, glabrous. Stems erect or ascending, ca 0.8–1.8 cm diameter at the nodes, glabrous or setose, sparse or densely stipitate-glandular, setae appressed to spreading, 1–3 mm long, glands sub-sessile to stipitate. *Ocreae* tubular, 1.8–3.2 cm long, membranaceous, setose (rarely glabrous), stipitate-glandular, punctate, setae (when present) spreading, the apex spreading and undulate (hypocrateriform), 0.3–1.5 cm long, chartaceous and photosynthetic, ± glabrous, sparse stipitate-glandular, punctate, the limb margin crenate and sometimes also dentate, bristly. *Leaves* cauline; petioles 2–8 cm long, stipitate-glandular, hispid; blade ovate, narrow-ovate or oblong-ovate, (5.5–)8.5–27 × 3–11.5 cm, chartaceous, both surfaces densely punctate, setose throughout when young to merely setose on the veins in age, rarely the adaxial surface glabrous and epunctate, the base rounded to truncate then cuneate, long-decurrent on the petiole, the margins entire, subcrenate, densely setose, setae acroscopic, appressed or ascending, the apex acute to acuminate; venation pinnate, the lateral veins 13–30 pairs, arcuate-ascending, hispid or bristly, abaxially prominent. *Inflorescences* sub-terminal, erect, essentially 2-sub-dichotomously branched from a leafy axil, 9–20 cm long, the primary fork basal, producing a shorter divergent peduncle with a solitary, terminal raceme and longer, secondary fork, sub-dichotomously branched into subequal, terminal racemes, the primary and secondary branch axils with reduced ocrea, the second axil rarely also with a reduced leaf, the peduncles setose or strigose, stipitate-glandular; racemes stout, dense, continuous, 3–10 × 1–2 cm; bracts imbricate, ovate, (2.5–)3–5 × 1.5–2.5 mm, glabrous to sparse-strigose, punctate and sometimes also stipitate-glandular, longitudinally striate, the margins entire, glabrous or short-setose, setae 0.2–1.5 mm long. *Flowers* ca 5 per fascicle-like partial inflorescence; pedicels exerted, exceeding the bracts by 1–2 mm; perianth turbinate or campanulate, pink, purple, reddish or greenish/white, punctate, the tepals 5, 3–4 mm long, unequal, oblong, the apices obtuse, the outer 2 cuculate, the inner 3 concave to plane, accrescent and tightly investing the achene; stamens 5, scarcely exerted, the anthers pink; nectaries 5, alternating with the stamens; ovary short-stipitate, ovoid, the style bifid ca 1/2 the length, slightly exerted; stigmas minute, capitate. *Achenes* inserted, biconvex, (2.7–)3.0–3.3 × 2.6–2.9 mm, thickest at the base, one face plane or slightly concave, the other face convex and sometimes with a slight central tumescence, the base obtuse, rounded or truncate, the apex obtuse to acuminate, the style deciduous, the stipe persistent 0.1–0.2 mm long, white; pericarp blackish brown, minutely rugose, lustrous.

Native to the Americas from central Argentina to Texas, including the Greater Antilles (Cuba); river banks, swamps, lagoons, ponds and wet ditches, usually in open, disturbed sites; 0–1400 m.

North and Central American specimens examined: **U.S.A. Texas. Starr Co.:** ca 7.0–7.1 air mi N to NNE of jct. US 83 and F.M. 755 in Rio Grande City, ca 0.5 mi S of La Sagunada Rd. from a point 3.7 road mi W of jct. F.M. 755, Eladio Carrera Ranch, Rio Grande City North Quadrangle, 26°28.678'N, 98°47.200'W, ± Elev. 290–300 ft, 3 Apr 2002, W. Carr, D. Carrera, L. Williams & L. Elliott 20568 (NY, TEX-LL); near Arroyo Los Olmos ca. 7.6 air mi NNW of jct. R. M. 755 and Eisenhower Rd. in Rio Grande City, Rio Grande City North Quadrangle, 26°29'24.2"N, 98°51'21.1"W, 220–230 ft, 10 Dec 2009, W. Carr & G. Janssen 28735 (TEX-LL). **MEXICO. Michoacan:** Estero del Río Popoyuta, 25 km al NE de Lázaro Cárdenas, 6 Sep 1979, M. González G. 234 (NY). **Chiapas:** Mun. Tuxtla Gutiérrez, Tuxtla Gutiérrez, 1900 ft, 27 Feb 1965, D.E. Breedlove 9195 (TEX-LL); Mun. Arriaga, 6 km N of Arriaga, 250 m, 14 Aug 1972, D. Breedlove 26923 (NY, TEX-LL). **GUATEMALA. Department unknown:** San Juan de Dios, Oct 1865, G. Bernoulli 139 (NY). **Jalapa:** Jalapa, 4500 ft, 8 Jan 1908, Kellerman 7865 (NY). **Guatemala:** Guatemala City, 10 Mar 1947, J. Brenckle 47-212 (NY). **HONDURAS. Comayagua:** near Siguatepeque, 1050 m, 9 Jul 1936, Yunker et al. 5770 (NY). **Francisco Morazán:** Santa Lucía, 10 km NE of Tegucigalpa, 1400 m, 27 Apr 1985, C. Bendeck 177 (NY); El Hatillo, 15 km N de Tegucigalpa, 1400 m, 20 Mar 1985, C. Garcia 143 (NY); Río Guacerique, between Los Laureles and Las Tapias, NW of Tegucigalpa, 1000 m, 4 Nov 1966, A. Molina 18573 (NY); San Antonio de Oriente town, 1000m, 17

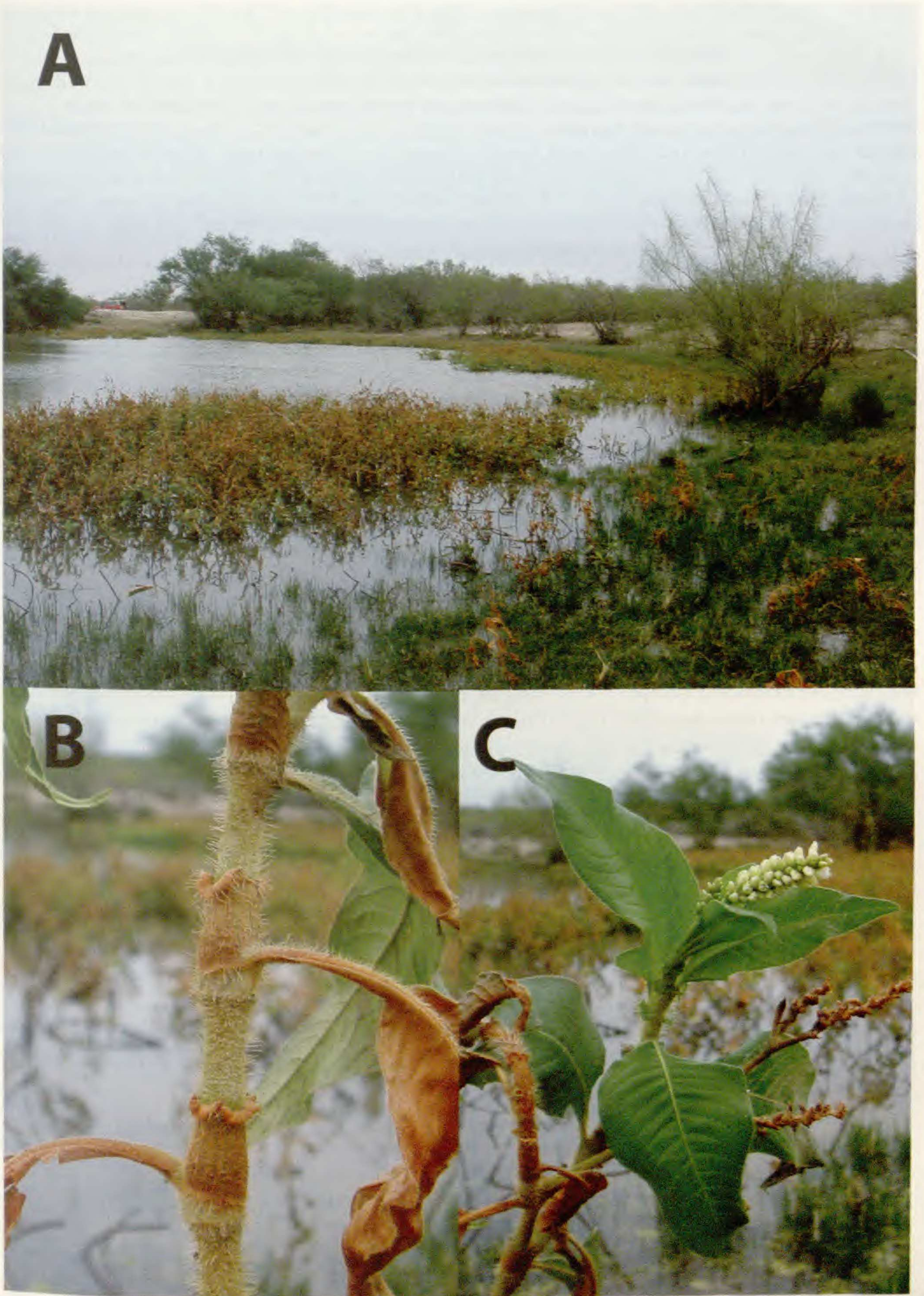


FIG. 1. Photographs of *Persicaria hispida*, Starr County, Texas, W. Carr & G. Janssen 28735. (A) Habitat; (B) close-up of stem and ocreae, showing rotate ocrea margins; (C) detail of inflorescence. Photographs by William Carr.

Aug 1971, *A. Molina* 26198 (NY); new highway of El Zamorano, Yeguaré River valley, 800 m, 17 Aug 1976, *A. Molina & A. Molina* 31531 (NY); km 7 to Tegucigalpa, vicinity of La Calera, 1000 m, 10 Jun 1999, *A. Molina & A. Molina* 34788 (TEX-LL); Santa Lucía, 10 km NE of Tegucigalpa, 1400 m, *S. Solabarrieta* 173 (NY). **Ocotepeque:** vic. of Ocotepeque town, bed of Marchala River, 800 m, 30 Aug 1968, *A. Molina* 22495 (NY). **El Paraíso:** jct. Rio Choluteca & Hwy 4, 650 m, 18 Jun 1970, *G. Davidse & R. Pohl* 2129 (NY); Quebrada de Coyol, Sierra El Chile, entre El Junquillo y El Robledal, 1300m, 12 Jun 1964, *A. Molina* 14178 (NY). **NICARAGUA. Esteli:** 22 air km NNE of Esteli along road to Yalí, Quebrada Plan Helado, 13°13'N, 86°15'W, 1360 m, 23 Jun 1982, *R. Haynes* 8568 (NY). **COSTA RICA. Alajuela:** Canton de Los Chiles, R.N.V.S. Caño Negro, Llanura de Guatuso, boca del Río Caño Negro, 10°54'50"N, 84°46'05"W, 40 m, 22 Jun 1993, *K. Martinez et al.* 151 (NY); Refugio Caño Negro, Los Chiles, San Carlos, 10°53'N, 84°47'W, 30m, 8 Jul 1987, *N. Zamora & I. Chacón* 1372 (NY). **PANAMA. Colon:** small tributary of Quebrada Ancha, 4 km E of Buena Vista, 3 km N of cement plant, 80 m, 4 Sep 1973, *Nee* 6781 (NY); Chagres River near Juan Mina, 2 Jul 1940, *H. Bartlett & T. Lasser* 16356 (NY).

In his monograph of *Polygonum* s.l. of North America, Small (1895) listed the distribution of this species as "The West Indies, Central America and northern and eastern South America as far south as Paraguay." The species is now known from North America north of Mexico as well. Despite being widespread from central Argentina to Texas, the species is uncommon (esp. northward), though sometimes locally abundant. It is absent from Guyana, Surinam and French Guiana (Brandbyge 1997); the Lesser Antilles (Howard 1988); the Yucatan (Ortiz 1994), Belize (Balick et al. 2000); Los Tuxtlas, Veracruz, Mexico (Ibarra-Manríquez & Sinaca-Colín 1987); the region in and around Mexico City (Rzedowski 1979); and the Bajío region of central Mexico (Castillejos Cruz & Solano 2008). It appears to be most abundant in Bolivia and Argentina. In Honduras, it has been called "tabaquillo" (*Molina & Molina* 31531) and "tabacón" (*Molina & Molina* 34788). More study is needed to determine the conservation status of this species in Texas. It is currently known from only two populations, both on disturbed sites. More data is needed on the distribution in northern Mexico to determine whether this is a natural range extension or a casual introduction.

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